cribriform lenses. These are not uniform gray lenses with transparencies and opacities giving the appearance of a veil. Black cataracts are rare, only 5 in the 1000. Their capsules were mostly "greasy" and tough. Iridectomy was done in all with resulting good vision, except in one case, in which it was only 1/60.

From measurements of the cornea and lens the lens diameter may be taken, roughly, to be a little more than two-thirds of the corneal horizontal diameter.

PATHOLOGY AND BACTERIOLOGY.

UNDER THE CHARGE OF

SIMON FLEXNER, M.D.,

DIRECTOR OF THE ROCKEFELLER INSTITUTE FOR MEDICAL RESEARCH, NEW YORK,

ASSISTED BY

WARFIELD T. LONGCOPE, M.D.,

RESIDENT PATHOLOGIST, PENNSYLVANIA HOSPITAL.

Milk and Infant Mortality in France.—A contribution to the *Annales d'Hygiene Publique*, September, 1902, by DRS. CH. GIRARD and F. BORDER, under this title, constitutes a terrible impeachment of the sanitary administration of French towns, in which it appears that the laws against the adulteration of milk must be absolutely dead letters. They do not hesitate to state that the milk as retailed is "not only wanting in the requisites of a passable article of food, but has undergone such countless sophistications that it has in many instances lost all alimentary value, and must be looked upon as a veritable poison." The climax seems to be reached at Lille and Roubaix, the municipal authorities of the former town admitting that the bulk of the milk sold had been passed through a separator and retained but 5 to 7 grammes of butter per litre, or, as we should say, 0.5 to 0.7 per cent. of fat. Of 694 samples examined in the municipal laboratory at Lille 20 per cent. had less than one part and 35 per cent. between one and two parts per one hundred of fat, only 16, or 2.3 per cent., being really good.

In the year 1897 or 1898 the mayor had secured the passing of a by-law fixing the standard of fat at 2.5 per cent., but it provoked violent opposition, and was soon rescinded as an abuse of power and arbitrary interference with the liberty of the individual. The inquiries carried out by our authors seem to have had the effect of "waking up" the authorities, for the regulation was revived, with the provisos that milk might be sold with 1.5 to 2.5 per cent. if distinctly labelled "lait lécrémé," and with less than 1.5 per cent. if marked "lait pauvre." As a result of the vacillation of the authorities the percentage of samples retaining the full percentage of 3.5 of fat fell from 15 to 6.6 in 1900, and rose again to 17.4 in 1901.

Drs. Girard and Border extended their inquiries into the milk-supply and infant mortality to every town of importance in the country, but met with little assistance, if not with actual obstruction from the local authorities. But the value of their statistics is greatly impaired by their adherence to the obsolete and unscientific practice of calculating the deaths of infants under one year of age on those of persons of all ages—a ratio that tells us nothing unless we know the relative numbers of the living at the respective ages.

Only in the case of Lille do we get a glimpse of the truth. There the number of births in the year 1900 was 6228, and of deaths under one year of age was 4984. Many of these, however, being those of children born in 1899, the surviving infants at the end of the year 1900 were 4766. Tuberculosis and "athrepsie," or diarrhœa and wasting diseases of children, each account for 15 per cent. of the total mortality at all ages in France; while of those of infants under a year from 20 to 60 per cent. are ascribed to "athrepsie"—in other words, to improper feeding—probably the heaviest preventable infant mortality in any community claiming to be a part of the civilized world.

The Etiology of Acute Rheumatism and Allied Conditions.—BEATON and WALKER (*Lancet*, January 31, 1903, p. 237) have isolated a micrococcus from 8 cases of acute rheumatism, 3 cases of chorea, and 4 cases of acute endocarditis in rheumatic subjects which they regard as specific in these infections. The organism resembles the streptococcus morphologically and culturally, but differs from the ordinary streptococcus inasmuch as it grows freely in filtrates of old bouillon cultures of the ordinary streptococcus of human origin. According to Marmorek this growth would rule out the ordinary streptococcus, which he has found will not grow in such filtrates. The organism when injected intravenously into rabbits gives rise to fever and wasting, monoarthritis, polyarthritis, pericarditis, endocarditis, septicæmia, and death. The writers regard their organism as identical with those described by Triboulet, Wassermann, and by Payne and Poynton.

On Active Immunization Against Plague, Cholera, and Typhoid Fever.—BESREDKA (*Annales Pasteur*, 1902, vol. xvi. p. 918) has compared carefully the relative value of active and passive immunity in plague, cholera, and typhoid, and proposes a new method of active immunization which does away with the untoward effects of active immunization as described by Haffkine.

The inoculation of the specific antisera in the diseases mentioned will give rise to an immunity which is immediate, but very temporary, lasting only from eight to fifteen days. Inoculations with killed cultures, according to the method of Haffkine, give a lasting active immunity, but, unfortunately, is preceded by an incubation period of from one to two weeks, during which time the animal is more than usually susceptible to infection; in addition, the localized abscesses, loss of weight, and malaise make this method far from ideal in the human being.

To obviate this difficulty Calmette and Salembini injected a mixture of antiserum and killed organisms. The untoward effects are obviated, but the duration of the immunity is not greater than with the serum alone. The author has succeeded in creating an active immunity by suspending the living cultures in the antiserum and then washing the agglutinated organisms in normal salt solution until all excess of serum is removed. Such a mixture gives no violent reaction, and at the same time an immunity is brought about which is present within twenty-four hours, and which lasts as long as the active immunity of Haffkine. The vaccines which are prepared in this manner will also retain their immunizing power for at least several months. —F. P. G.

Peritonitis in Typhoid Fever without Perforation, with a Report of One Case Caused by the Bacillus Typhosus and Another Simulating Acute Appendicitis.—YATES (*American Medicine*, 1903, vol. v. p. 700) discusses the subject of peritonitis in typhoid fever without perforation, and adds two such cases to the literature. The author finds from a survey of some of the extensive statistical records of typhoid fever that this complication occurs in about 1.7 per cent. of the cases. Its symptomatology does not differ from that of the perforative type. The origin of the peritonitis in some of the cases was traced to a rupture of the mesenteric glands, but in no instance did infarctions of the spleen appear to give rise to the condition. The typhoid bacillus is usually the direct cause of the peritoneal inflammation. From the author's study of his own cases he concludes that in the one fatal case the peritonitis was caused by a direct extension of typhoid bacilli through the ulcerated intestinal wall. The deep ulcers and meteorism were thought of as predisposing factors. In certain areas thrombi were found in the vessels of the intestinal wall. Among the thrombi were some composed of agglutinated red blood corpuscles. Experiments were made to determine whether the typhoid bacillus, or the product of its growth in cultures, was capable of agglutinating human red blood corpuscles *in vitro*. These experiments demonstrated definitely that the typhoid bacillus generated agglutinin which had a specific action upon human blood.

The Agglutinating Properties of Bile.—CANTANI (*Zentralblatt f. Bakt. u. Parasit.*, 1903, Bd. xxxiii. p. 731) reports experiments made to determine the agglutinating power of bile from normal animals and from immunized animals upon different varieties of bacteria. It was found that bile from normal dogs, guinea-pigs, oxen, and rabbits did not agglutinate any of the bacteria used, among which were B. coli, B. typhi, B. influenza, staphylococci, and streptococci. Animals were inoculated with these various organisms and the bile tested for agglutination during the stage of acute infection, but it was found that at this time no agglutination occurred. If the animals recovered from their infection, the bile occasionally showed some slight power to agglutinate that particular variety of bacterium which had produced the infection. On the other hand, the bile of animals highly immunized against a specific organism was capable of agglutinating that organism rapidly and in high dilutions. The agglutinating power of the bile, however, never exceeded or even reached that of the serum. From these observations the author concludes that if the agglutinins are present in the blood serum only in small amount, they do not appear in the bile; and it is only when they occur in great quantity in the blood that they pass over into the bile itself.